

What Do You Think Goes Into Developing Games?

- Consider a computer game you want to build (or, one you like that has been built)
- Assume you are inspired (or forced or paid) to engineer the game
- Take 3-4 minutes to write a list of the tasks required
 - Chronological or hierarchical, as you wish
 - Include your name and name of game
 - (I'll collect and read, but not grade)
- What do we have?



IMGD 1001 - The Game Development Process: Introduction

by

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What to Expect

- This course is mainly about the process of successfully bringing a game from idea to delivery
 - Major "players" in the process
 - Steps in the development lifecycle
 - What makes a good (and bad!) game
- Presupposed background
 - Not much!
- Nice to have
 - Gaming experience in a few genres

Today's Topics

- Background
- Course Topics
- Course Materials
- Motivation

Instructor Background (Who Are We?)



- Dr. **Mark Claypool** (Prof, "Mark")
 - Computer Science
 - Operating Systems, Distributed Computer Systems, Multimedia, Networks
 - Director of the IMGD program
 - The Game Development Process
 - Technical Game Development
- Research interests
 - Networks, Multimedia, **Network games**, Performance
- Like to play
 - Real-time Strategy (Battle for Middle Earth, Warcraft, ...)
 - Sports (FIFA, Madden, Strikers, ...)
 - First Person Shooters (Battlefield, Doom, ...)
 - Adventure (Uncharted, Indigo Prophecy, ...)

Instructor Background (Who Are We?)



- Dr. **Rob Lindeman** (Professor, "Rob")
 - Computer Science
 - Like to play
 - Driving games (NFS, Ridge Racer)
 - Platformers (Oni, Onimusha, Prince of Persia)
 - Rhythm games (Guitar Hero, Oendan)
 - *Real* FPS, with alternate input/output devices (TimeCrisis)
- Research interests
 - Virtual Reality, Immersive User Interface, Computer Graphics, HCI, Large-Scale Virtual Worlds, Evaluation and User Studies

Student Background (Who Are You?)



- Year (freshman, sophomore, ...)
- Major (IMGD (Art or Tech), CS, HUA, ...)
- Programming Classes
- Gamer: (casual) 1 to 5 (hard-core)
- Number of Games Built (zero is ok)
- Other ...

Syllabus Stuff



<http://www.cs.wpi.edu/~imgd1001/a08/>

- Office hours:
 - TBA (about 3 per week each)
 - See Web page
- Email:
 - {gogo, claypool, pgb, tjloughl} at cs.wpi.edu
 - id111x-ta at cs.wpi.edu
 - id111x-all at cs.wpi.edu
- GDC Forums
 - IMGD 1001 forum: <http://forums.gdc.wpi.edu/>
 - For discussions, announcements ...

Course Materials

- Slides
 - On the Web (PDF)
 - Caution! Don't rely upon the slides alone!
Use them as supplementary material
 - (come to class!)
- Timeline
 - Tentative planning
- Project writeups
- Resources
 - Game creation toolkits, documentation, etc.

Text Books

- Main text:
 - *The Game Development Process*
 - Written by lots of people, edited by [Steve Rabin](#)
 - Close to course material, required for this class
 - 1000 pages! But good reference
- Supplemental texts:
 - *Game Architecture and Design - A New Edition*
 - by [Andrew Rollings](#) and [Dave Morris](#)
 - Heavily used for design
 - *On Game Design*
 - by [Andrew Rollings](#) and [Ernest Adams](#)
 - Some solid game design material
 - *Designing Arcade Computer Game Graphics*
 - by [Ari Feldman](#)
 - Creating 2D art for games
 - *Creating the Art of the Game*
 - by [Matthew Omernick](#)
 - Creating 3D art for games
 - Maybe some other articles (i.e. Gamasutra) as needed ...

Course Structure

- Prerequisites
 - None!
 - Neither **Programming** nor **Art**
- In-Class
 - Lecture
 - Discussion
 - Exercises
 - Exams
- Out-of-Class
 - Reading
 - Projects
- Grading
 - Exams (**40%**)
 - Projects (**60%**)

(More on Exams and Projects, next)

Exams

- 2 exams
- 40%** of grade
- Non-cumulative
- Closed-note
- Closed-paper
- Closed-friend

Projects (1 of 2)

- About 7 projects
 - 3 are tutorials with some "add ons"
 - 4 are original, made from "scratch"
- 60% of your grade
- Groups (3 is good, 2 or 4 are possible)
- Apply concepts taught in class
- Related to *Game Development*
- Build upon each other
 - Should have working game at end!
 - Add this to your portfolio
- 10% penalty on late projects

Projects (2 of 2)

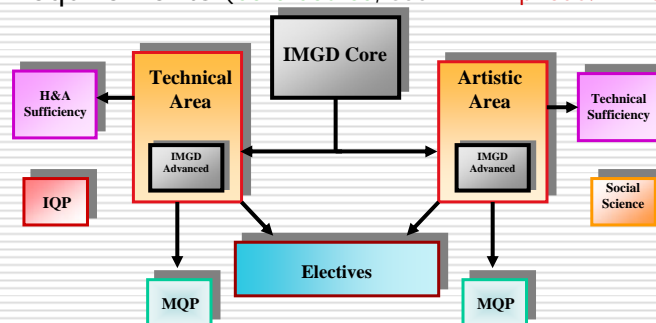
- Project 4: Game Inception and Design
 - Inspiration of a game, design and documentation
- Project 5: Content Creation
 - Create 2-d animated sprites (or other art) and select supporting content
- Project 6: Game Logic
 - Implement game objects and game rules
- Project 7: Level Design
 - Put above components together in compelling game
- Project pitch
 - To panel of experts

Course Topics

- Game Industry
 - Structure
 - Major actors
 - Trends
- Game Design
 - The Creative Process
 - Design Documentation
- Artistic Content Creation
 - Color and Displays
 - 2D and 3D
 - Graphics
 - Animation
 - Audio
 - Music
 - Sound Effects
- Introduction
 - Team
 - Timeline
 - Size and Shape
- Engineering
 - Game Architectures
 - Programming
- Production, etc.
 - Release
 - Postmortem

Why This Class?

- IMGD requirements (Core Course, see www.wpi.edu/+IMGD)



- Introduction to steps of Game Development
 - In depth in Area
- Fun! ("*passion for games*")

First Year Advice – your “Job”

- ❑ High school is different than college!
- ❑ Go to class!
 - Think of your classes as your full-time job
 - First-year grades pave way to grades in subsequent years
- ❑ Make a study schedule early
 - WPI expects 3-4 hours study for each hour of class (i.e. 17 hours per class, so ~54 hours)
 - Maybe a time management calendar
 - ❑ <http://www.collegeboard.com/student/plan/college-success/118.html>

First Year Advice – the Syllabus

- ❑ Read syllabus for each class
 - Key to performing successfully!
- ❑ Some key things to note:
 - Grading policy
 - Attendance policy
 - Professor/TA name, location and office hours
 - Learning outcomes and course expectations
 - Deadlines for course requirements

First Year Advice – ask Questions

- Help is there, but you must ask
- Office hours
- Discussion forums
- Peers
- Tutoring
- Online help
- Especially important in later classes

First Year Advice – get Involved

- Involvement in campus organizations/events is an important part of your education!
- Find out what is going on campus
 - <http://www.wpi.edu/Admin/SAO/Orgs/>
- Balance this with your classes

First Year Advice – Resources

- Academic advising
- Counseling center
 - <http://www.wpi.edu/Admin/SDCC/>
- Professors
- Tutoring services
 - Specific for major/class (i.e. ACM and GDC)
- Career development center
 - <http://www.wpi.edu/Admin/CDC/>